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Overview of progress towards sustainable development: a review of the implementation of Agenda 21, the Programme for the Further Implementation of Agenda 21 and the Johannesburg Plan of Implementation

Report of the Secretary-General

Summary

- Recent years have seen widespread economic growth and poverty reduction.
- Poverty remains predominantly rural, and measures to boost agricultural productivity are essential.
- Conditional cash transfer programmes have been successful in reducing poverty and improving health and education in several countries, notably in Latin America.
- Some progress has been made in extending malaria and HIV/AIDS prevention and treatment.
- Improving energy access for the rural poor remains a high priority, especially in South Asia and sub-Saharan Africa.
- Climate change makes intensified development of low-carbon energy technologies a high priority.
- Progress in slowing natural resource degradation has been uneven.
- Financial mechanisms designed to slow deforestation are being explored.

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- There are few signs of recovery of depleted fisheries.
- Advances have been made in implementing disaster early warning systems.
- A strategic international framework now exists for chemicals management.
- Through the Marrakech Process, countries are working to promote sustainable consumption and production.
- Many countries have benefited from rapid trade expansion, but non-tariff barriers remain a concern.
- A few developed countries have raised their official development assistance/gross national income shares, but most are still far from the 0.7 per cent target.
- International finance for health in the developing world has increased, with private philanthropies playing a growing role.

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I. Introduction

1. The present report provides a brief review of progress in the implementation of Agenda 21,[1] the Programme for the Further Implementation of Agenda 21[2] and the Plan of Implementation of the World Summit on Sustainable Development ("Johannesburg Plan of Implementation").[3] Not considered here are certain topics covered in separate reports submitted to the Commission on Sustainable Development at its sixteenth session, including agriculture, rural development, land, drought, desertification and water and sanitation. Africa is considered here along with other regions, even though it is the subject of a separate report. The focus herein is on important recent developments, new data, and progress in understanding what works.

II. Poverty eradication and access to basic services

A. Poverty eradication

2. Despite progress in some countries, the eradication of poverty and hunger remains a major challenge, especially in sub-Saharan Africa (figure I). In developing countries, the proportion of people living in extreme poverty fell from 32 to 19 per cent between 1990 and 2004. If the trend is sustained, the Millennium Development Goal poverty reduction target for 2015 will be met for the developing world as a whole and for most regions. Sub-Saharan Africa, however, is not on track to reach the goal.

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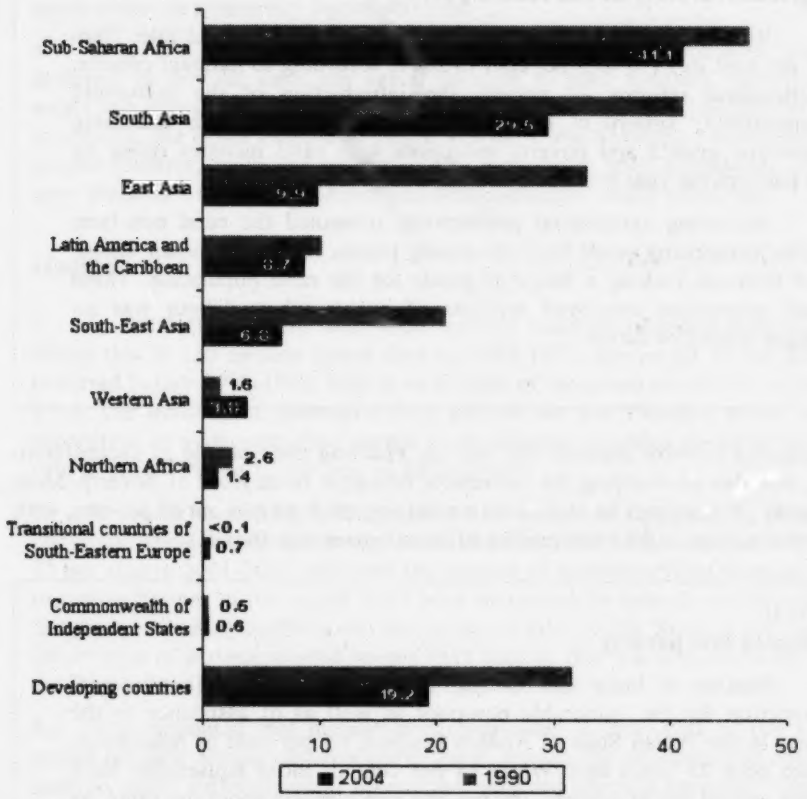
[1] *Report of the United Nations Conference on Environment and Development, Rio de Janeiro, 3-14 June 1992*, vol. 1, *Resolutions Adopted by the Conference* (United Nations publication, Sales No. E.93.I.8 and corrigendum), resolution 1, annex II.

[2] General Assembly resolution S-19/2, annex.

[3] *Report of the World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002* (United Nations publication, Sales No. E.03.II.A.1 and corrigendum), chap. I, resolution 2, annex.

Figure I
Proportion of population living on less than $1 a day, various regions, 1990 and 2004
(Percentage)



Source: *The Millennium Development Goals Report, 2007* (United Nations publication, Sales No. E.07.I.15).

3. More than 70 per cent of the world's poor live in rural areas, and the rural poverty rate is more than double the urban rate — 30 versus 13 per cent.[4] As most of the rural poor are small-scale farmers, herders, fishers and agricultural labourers, improvements in agricultural productivity, particularly for small farmers, are critical to reducing poverty. Higher agricultural incomes increase both current household consumption and long-term household assets. They also generate demand for goods and services, stimulating non-farm employment and incomes. The many poor farmers who both grow and buy food stand to benefit from both increased food

[4] World Bank, "*New research on the urbanization of global poverty*", PovertyNet Newsletter, No. 101 (April 2007).

production and lower food prices. Empirical evidence indicates that agricultural growth is more pro-poor than growth in other sectors (box I).[5]

Box I
Agricultural reforms can reduce poverty

Rural poverty in China has fallen at an unprecedented rate, from 33 per cent in 1978 to 3 per cent in 2001, according to national criteria. Agricultural reforms — notably the introduction of the household responsibility system in 1978 — played a central role in launching economic growth and poverty reduction, with rural incomes rising by 15 per cent per year between 1978 and 1984.

Increasing agricultural productivity promoted the rural non-farm sector comprising small food-processing plants, machinery repair shops, and factories making a range of goods for the rural population. These rural enterprises employed millions of people whose labour was no longer needed on farms.

4. Reducing poverty depends not only on enabling poor people to escape from poverty, but also on enabling the vulnerable non-poor to stay out of poverty. Most anti-poverty programmes have focused on helping poor people out of poverty, with much less attention to the vulnerability of other households (box II).

Box II
Slipping into poverty

Studies in India and Kenya indicate the importance of social protection for the vulnerable non-poor as well as of assistance to the poor. In the Indian State of Andhra Pradesh, 65 per cent of households were poor 25 years ago. While 14 per cent of those households have since moved out of poverty, the poverty rate remains about the same, as about 12 per cent of non-poor households have slipped into poverty over the same period owing to financial and health crises.

Similar findings are reported from 20 villages in western Kenya. During the past 25 years, 19 per cent of the poor households in these villages have managed to rise out of poverty, but a similar number of households fell into poverty owing to factors such as illness, death and funeral expenses.

5. Social protection programmes help vulnerable households deal with unemployment, illness and old age, supplementing family support. Such

[5] Joachim von Braun, Ashok Gulati and Shenngen Fan, "Agricultural and economic development strategies and the transformation of China and India", IFPRI 2004-2005 Annual Report Essay (Washington, D.C., International Food Policy Research Institute, 2006).

programmes are well established in developed countries and are being developed and strengthened in developing countries. In some cases, Governments play a leading role, while in others most support comes from social institutions or commercial enterprises. In some African countries, micro health insurance has developed in recent years, providing poor people with both preventive care and quick access to emergency health services.

6. In several Latin American countries, Governments have initiated programmes designed to provide cash and social services to poor families, including school meals and access to basic health care. The PROGRESA/Oportunidades programme in Mexico, the Bolsa Familia in Brazil and the Chile Solidario programme all have similar features, including cash grants to mothers in poor households conditional upon children's school attendance and periodic family health check-ups.

B. Hunger

7. In 2002-2004, there were 860 million undernourished people worldwide. While this is 130 million fewer than in 1969-1971, almost all of the decline had occurred before 1990-1992, largely as a result of the green revolution in Asia. Since 1992, the number of undernourished people has not changed much, while the proportion of undernourished people in developing countries declined from 20 per cent in 1990-1992 to 17 per cent in 2002-2004.[6]

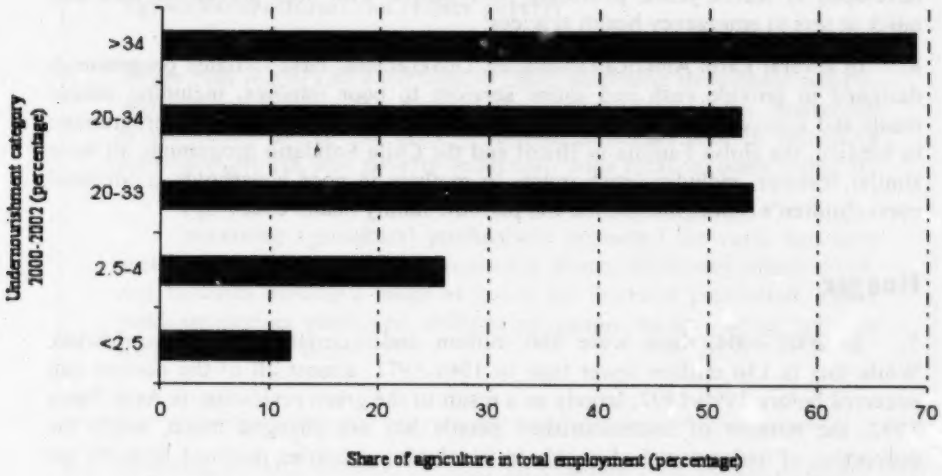
8. In sub-Saharan Africa, for the first time in several decades, the proportion of undernourished people saw a significant decline, from 36 per cent in 1995-1997 to 32 per cent in 2001-2003, although the number of undernourished increased. Efforts to reduce hunger in the region have been hampered by natural and human-induced disasters, including conflicts and the spread of HIV/AIDS. Most of the increases in the number of undernourished people have been in five war-torn countries: Burundi, the Democratic Republic of the Congo, Eritrea, Liberia and Sierra Leone.

9. It is estimated that malnutrition contributes to over half of the 10 million deaths per year among children under age 5. Among the malnourished children who survive, many suffer frequent illness and impaired learning capacity.[7] Malnutrition both increases children's vulnerability to disease and reduces their capacity to fight it. Like poverty, hunger and malnutrition are greater in rural than urban areas, and in more agrarian countries (figure II).

[6] Food and Agriculture Organization of the United Nations, *The State of Food and Agriculture 2007* (Rome, FAO, 2007); and *The State of Food Insecurity in the World 2006* (Rome, FAO, 2006).

[7] World Health Organization, *Child and Adolescence Health and Development: Progress Report 2006* (Geneva, WHO, 2007).

Figure II
Undernourishment and dependence on agriculture



Source: Food and Agriculture Organization of the United Nations, *The State of Food and Agriculture, 2005* (Rome, FAO, 2005).

C. Health

10. The Millennium Development Goals call for a two-thirds reduction in child mortality by 2015. Most under-five deaths are due to infectious diseases and neonatal causes, with an estimated 4 million infants each year dying during the first month of life. In sub-Saharan Africa, child mortality is especially high, represented by a figure of generally over 100 deaths per 1,000 live births (figure III).

Figure III
Under-five mortality rate, 2006

Source: UNICEF data.

11. Malaria remains a major scourge, with about 60 per cent of malaria cases and 80 per cent of malaria deaths occurring in sub-Saharan Africa. Since 1990, the incidence of malaria has increased substantially in Africa and South Asia and has re-emerged in several Central Asian countries as a result of restrictions on the use of dichlorodiphenyltrichloroethane (DDT) and increased resistance of the malaria parasite to chloroquine.[8] In recent years, there has been a growing belief that the cost-effectiveness of DDT in combating malaria, and its safety when used carefully, justify its use, accompanied by efforts to develop affordable and effective substitutes.[9]

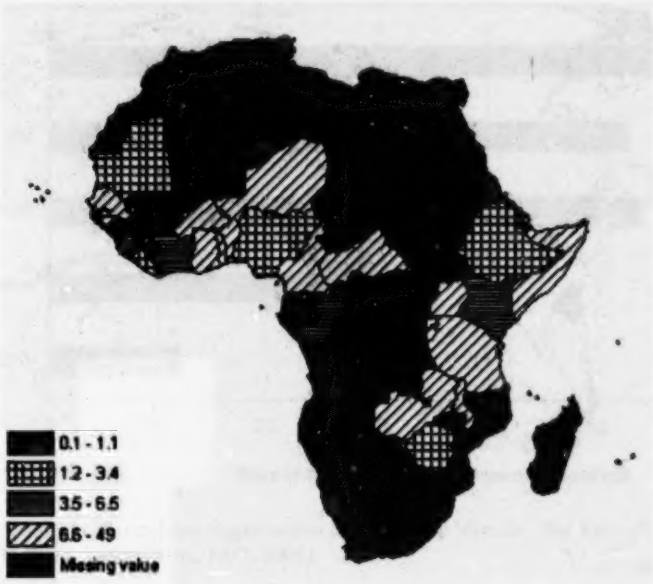
12. Since 2000, major efforts have been made to strengthen programmes established to prevent malaria and provide treatment. Distribution of new, more effective artemisinin-based antimalarial drugs and insecticide-impregnated bed nets is increasing — the United Nations Children's Fund (UNICEF) procured 20 times more nets for distribution in 2006 than in 2000 — but coverage is still far from adequate (figure IV). National health programmes in malaria-endemic countries have benefited from a 10-fold increase in international funding in the last decade.[10]

[8] World Health Organization/United Nations Children's Fund, *World Malaria Report 2005* (Geneva, WHO and UNICEF, 2005).

[9] World Health Organization/Global Malaria Programme, "The use of DDT in malaria vector control: WHO position statement" (October 2007) (at http://www.who.int/malaria/docs/IRS/DDT/DDTposition.pdf).

[10] United Nations Children's Fund, "Malaria and children: progress in intervention coverage: ITNs", 2007.

Figure IV
Percentage of children under age 5 sleeping under insecticide-treated bed nets in Africa, 2003-2006



Source: UNICEF data.

13. HIV/AIDS also continues to inflict a heavy toll on health and development. At the end of 2007, over 33 million people worldwide were estimated to be living with HIV, up from 30 million in 2002, about 68 per cent of them in sub-Saharan Africa. In some of the worst-affected countries in sub-Saharan Africa, over half of all deaths among children under age 5 are now HIV-related, but there has been some progress: the number of people newly infected declined to 2.5 million in 2007 from 3 million in 2003, while the number dying from AIDS declined to 2.1 million in 2007 from a peak of 2.2 million in 2005.[11]

14. A number of countries have effectively limited the spread of HIV/AIDS. In India, AIDS cases were expected to rise steeply, but efforts at an early stage of the epidemic helped to keep the HIV prevalence rate well below 1 per cent. Interventions under the National AIDS Control Project include condom promotion, changing behaviour, community information and education, and targeting vulnerable groups such as sex workers. Legislation and enforcement for blood bank protection and quality manufacturing of condoms also contributed.

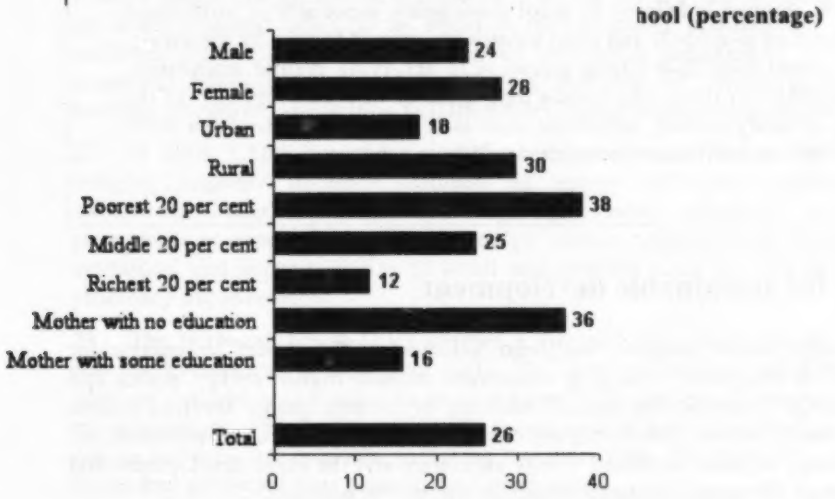
[11] Joint United Nations Programme on HIV/AIDS/World Health Organization, *AIDS Epidemic Update 07* (Geneva, UNAIDS and WHO, December 2007); and *UNAIDS Annual Report: Making the Money Work* (Geneva, UNAIDS, June 2007).

D. Education

15. The Millennium Development Goals call for universal primary school enrolment by 2015. Recent data, however, show that 26 per cent of primary school-age children are still out of school. Family income and mothers' educational level are among the major determinants of children's staying in school (box III).[12]

Box III

Background characteristics of primary school-age children out of school in 80 countries (2004)



Gender. For the 80 countries studied, on average, 117 girls were out of school for every 100 boys, with exclusion of girls particularly marked in the Arab States (134 to 100) and South and West Asia (129 to 100).

Rural/urban. The proportion of children out of school was more than twice as large in rural as in urban areas in 24 of the 80 countries. In sub-Saharan Africa and South Asia, over 80 per cent of out-of-school children lived in rural areas.

Household wealth. Children from the poorest 20 per cent of households were three times as likely to be out of school as children from the wealthiest 20 per cent, with a particularly high differential in Arab States.

Mother's education. Children whose mothers had no education were twice as likely to be out of school as children whose mothers had some education.

[12] United Nations Educational, Scientific and Cultural Organization, *EFA Global Monitoring Report 2007: Strong Foundations* (Paris, UNESCO, 2006).

16. In many low-income communities, it is difficult to increase enrolment, as most children not in school are earning income that their families badly need. In addition, many poor households cannot afford to send children to school because of school fees and other educational expenses. In many rural areas, the quality of education is also inadequate. In some countries, school attendance in rural areas has been improved through targeted subsidy programmes (box IV).

Box IV
Boosting enrolment with school meals in Mali

In northern Mali, a school feeding programme serving almost 90,000 children is helping to boost enrolments, especially of girls. Food is delivered to schools and local women are trained to prepare the meals. The school meal is a strong incentive to achieving regular attendance, particularly for those who have a long distance to walk every day. In the Kadji primary school, enrolment increased by one third between 2000 and 2003, and girls' enrolment shot up 50 per cent.

III. Energy for sustainable development

17. Although some progress has been achieved with respect to energy for sustainable development, emerging challenges include higher energy prices and climate change. Accessibility and affordability of modern energy services remain important issues in most developing regions. The adverse effects of air pollution and climate change demand increased energy efficiency and the rapid development and deployment of advanced, cleaner low-carbon energy technologies.

A. Comprehensive energy assessments

18. Some countries have initiated programmes through which to examine their energy sectors in a comprehensive manner and within a sustainable development framework. Countries such as Brazil, Cuba and Mexico have improved energy statistics by incorporating energy indicators for sustainable development, allowing them to monitor progress in areas such as accessibility and affordability, energy intensity in important economic sectors, diversification of fuel mix, renewable energy, atmospheric emissions and liquid discharges from energy systems.[13]

19. Brazil has created an independent agency for the evaluation of energy trends and the formulation of energy demand and supply projections; and in 2006, it completed a comprehensive assessment of its energy sector, including quantitative and qualitative analyses of the country's energy needs, supply and security, based on sustainable development criteria and goals. South Africa and Cuba have also completed and Kazakhstan is starting, comparable assessments of their energy sectors.

[13] International Atomic Energy Agency, Department of Economic and Social Affairs of the United Nations Secretariat, International Energy, Eurostat and European Environment Agency, *Energy Indicators for Sustainable Development: Guidelines and Methodologies* (Vienna, IAEA, 2005).

20. These assessments have allowed countries to identify alternative paths for more sustainable energy futures and have demonstrated the feasibility of shifting towards less energy intensive economies with wider use of cleaner and renewable energy technologies.

B. Energy efficiency

21. There are an increasing number of initiatives worldwide designed to improve energy efficiency. A global Energy Efficiency Building Retrofit Program, a project of the Clinton Climate Initiative, was announced in 2007, bringing together 4 of the world's largest energy service companies, 5 of the world's largest banks and 16 of the world's largest cities, in an effort to reduce energy consumption in existing buildings. Participating cities have agreed to develop programmes to make their municipal buildings more energy-efficient and provide incentives for private building owners to retrofit their buildings with energy saving technologies.

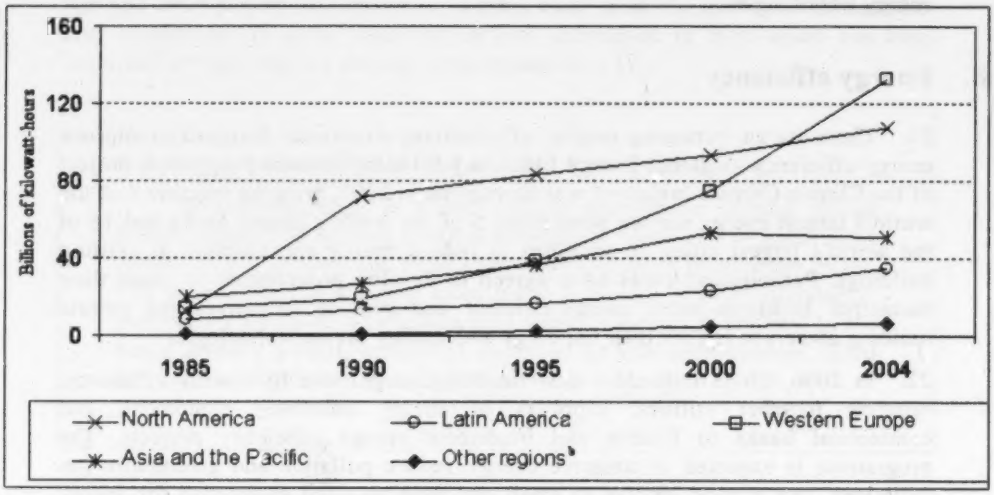
22. In 2006, China initiated a new financing programme for energy efficiency, bringing together utilities, suppliers of energy efficiency equipment, and commercial banks to finance and implement energy efficiency projects. The programme is expected to conserve energy, reduce pollution and greenhouse gas emissions, and expand lending to small and medium-sized enterprises for energy efficiency improvements.

23. The European Union (EU) adopted a directive on energy end-use efficiency and energy services in December 2005. The directive requires member States to draw up national action plans so as to achieve 1 per cent yearly energy savings in the retail supply and distribution of electricity, natural gas, urban heating, and other energy services and products, including transport fuels. By mid-2007, 15 member States had submitted their plans to the Commission.

C. Renewable and advanced energy technologies

24. Some progress has been made towards the Johannesburg Plan of Implementation goal of substantially increasing the global share of energy obtained from renewable sources. Strong economic growth, high fossil fuel prices and increased concerns about climate change are some of the main factors driving current interest in renewable energy and other cleaner and advanced energy technologies. Although the overall world share of these technologies remains low, in recent years there has been a substantial increase in the use of renewable energy in all regions, with particularly fast growth in Europe (figure V).

Figure V
Electricity from renewable energy sources (excluding hydropower), 1985-2004[a]



Source: Energy Information Administration, Department of Energy, 2007.
[a] Including wind, solar, geothermal, wood and waste.
[b] Including Central and Eastern Europe, Africa and Western Asia.

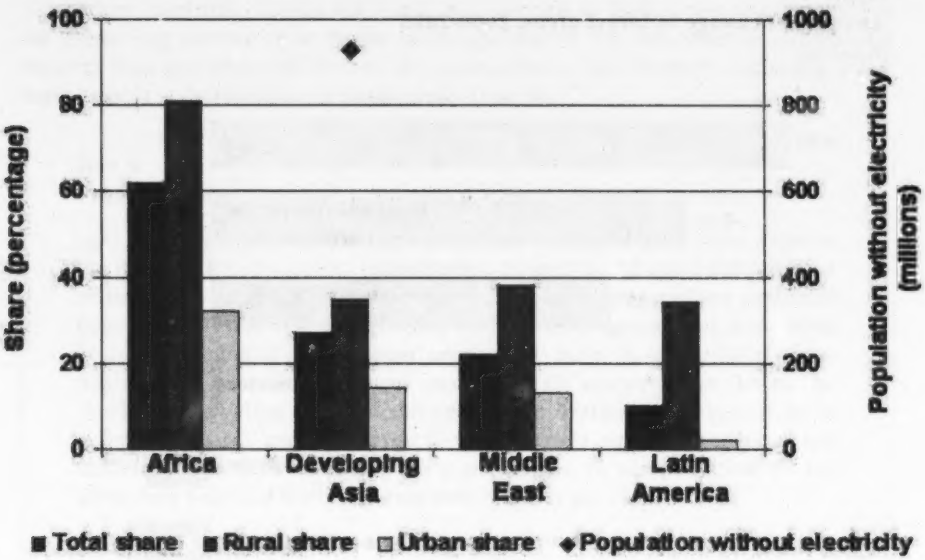
25. While global primary energy supply grew at the rate of about 1.8 per cent per year between 1990 and 2005, some renewable energy sources grew much faster. Wind power is the fastest growing, with an average annual increase of more than 24 per cent. Solar energy and modern biomass energy also experienced above-average growth, at 5.6 per cent and 8.2 per cent, respectively. Production and use of liquid biomass for transportation have also grown markedly. Brazil and the United States of America lead world production of ethanol, while EU countries produce more than three quarters of the world's biodiesel.

26. Considerable research and development efforts are under way on advanced fossil fuel technologies, including carbon capture and storage, with a number of countries including Algeria, Canada, the Netherlands and Norway already applying such technologies. Research activities focus on the prospects for carbon dioxide (CO_2) storage in geologic formations, in the ocean and in mineral carbonates. A partnership initiative entitled the Carbon Sequestration Leadership Forum has identified a total of 19 projects for research and demonstration as of 2007. Still, research effort needs to be scaled up.

D. Access to energy services

27. Another major goal of the Johannesburg Plan of Implementation is improving access to reliable and affordable energy services. Electrification programmes have been implemented in a number of developing countries, including Botswana, Brazil, China, Ecuador, Ethiopia and Uganda. Nevertheless, some 1.6 billion people, mostly in rural areas, still lack access to electricity (figure VI).

Figure VI
Shares of total, rural and urban populations without electricity and numbers of people without electricity, by region, 2005



Source: International Energy Agency, *World Energy Outlook, 2006* (Paris, IEA, 2006), annex B, "Electricity access".

28. Some progress has also been made in reducing the use of traditional biomass, especially in Latin America and parts of Asia. However, lack of modern energy services still impedes poverty reduction and sustainable development in many developing countries, particularly in sub-Saharan Africa and South Asia, and some small island developing States. Sub-Saharan Africa still relies on traditional biomass for a very major portion of cooking and heating fuel.

IV. Protecting and managing the natural resource base

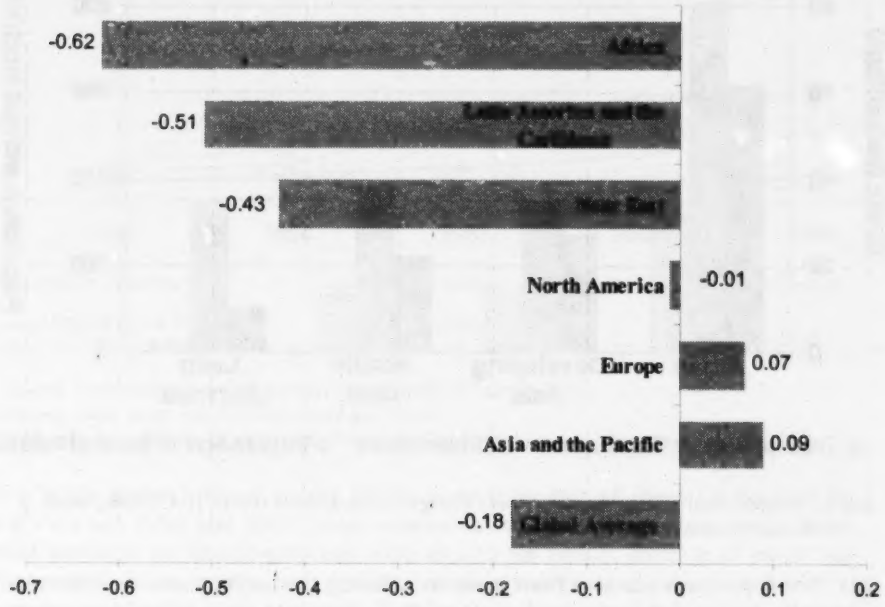
A. Biodiversity and conservation of biological resources

29. Biodiversity and its habitats, notably forests and wetlands, provide critical services such as water management and purification, soil conservation, carbon storage and reduced vulnerability to floods, droughts and landslides, in addition to the benefits of biodiversity itself. The poor, especially in rural areas, depend on biodiversity for food, fuel, shelter, medicines and livelihoods.

30. Biodiversity and habitat loss, particularly through forest degradation, is continuing at a high rate. From 1990 to 2005, the world lost 3 per cent of its total forest area. Since 2000, the rate of loss has declined slightly, but with net forest loss

still amounting to 7.3 million hectares per year (figure VII).[14] However, there has been substantial net forest expansion in Asia, where large-scale reforestation programmes are under way in China, India and Japan.

Figure VII
Annual net change in forest areas, 2000-2005
(Percentage)



Source: Food and Agriculture Organization, *State of the World's Forests* (Rome, FAO, 2007).

31. Deforestation and land-use change accounted for 18 per cent of global greenhouse gas emissions in 2004.[15] Sustainable forest management, including protection of existing forests and restoration of degraded forests, helps to mitigate global climate change through carbon sequestration. One recent study suggests that carbon sequestration through maintaining and restoring forests can be more effective in reducing carbon emissions than using the same land for biofuel production to replace fossil fuels.[16]

32. Despite the importance of forest protection for reducing climate change, the Kyoto Protocol[17] to the United Nations Framework Convention on Climate Change[18] does not recognize "reducing emissions from deforestation and forest

[14] Food and Agriculture Organization of the United Nations, *State of the World's Forests 2007* (Rome, FAO, 2007).

[15] Sir Nicholas Stern, *Stern Review on the Economics of Climate Change* (London, HM Treasury, 2006), annex 7 f: Emissions from the land-use sector.

[16] Renton Righelato and Dominick V. Spracklen, "Carbon mitigation by biofuels or by saving and restoring forests?", *Science*, vol. 317, No. 5840 (17 August 2007), p. 902.

[17] FCCC/CP/1997/7/Add.1, decision 1/CP.3, annex.

[18] United Nations, *Treaty Series*, vol. 1771, No. 30822.

degradation" (REDD) projects under the Clean Development Mechanism. However, the Bali Action Plan calls for examination of "policy approaches and positive incentives on issues relating to reducing emissions from deforestation and forest degradation in developing countries" (para. 1 (b) (iii)).

33. Many countries provide tax breaks or payments to landowners or communities for preserving forests or wetlands in recognition of the important environmental services they perform well beyond the boundaries of the property, including water management and protection of biodiversity (box V).

Box V

Financial incentives and payments for environmental services

In the United Republic of Tanzania, a steady flow of clean water in the Pangani River requires conservation of forests and good management of farmlands in the river's upper catchment. Such conservation generates huge benefits for the downstream hydropower, agricultural and urban sectors, but upland people incur appreciable costs from providing these downstream water management services. With support from IUCN-The World Conservation Union Water and Nature Initiative, a project aims to generate rewards and incentives for Government agencies and poor and land-scarce farmers managing the upper slopes, in compensation for the costs they bear and the ecosystem services they provide.

In Costa Rica, the Payments for Environmental Services Programme, introduced in 1996, recognizes a range of environmental services derived from natural forests, plantations and agroforestry systems, particularly for biodiversity protection. Landowners receive an average of $540 per hectare for establishing new tree plantations, and $210 per hectare for maintaining previously established plantations.

In the mountainous regions of Pakistan, conservation of wildlife and endangered animal species through financial rewards and community-based management has been highly effective. Notable in this regard is the Trophy Hunting Programme, which provides financial incentives for local communities of up to 80 per cent of fees charged to hunters.

34. Mountain forests account for 26 per cent of global forest area and are characterized by high biodiversity. However, considerable deforestation and forest degradation are taking place in mountain forests as a result of overgrazing, fire and conversion into plantations and cropland. Development of infrastructure such as dams, hydropower plants, roads and tourist facilities also contribute to forest loss. The Mountain Partnership, launched at the 2002 World Summit on Sustainable Development to protect mountain ecosystems, has expanded to include 130 members, including Governments, international organizations, civil society groups and private sector institutions.

B. Oceans and marine resources

35. The world's wild fish harvest has levelled off since 1989 after a long period of growth. The steadily growing demand for fish has been met largely by fish farming, whose share of total fish production increased from 27 per cent in 2000 to 34 per cent in 2005. While there have been efforts in some countries to reduce fishing capacity or activity in order to allow ocean-harvest fisheries to recover, there does not appear to be any overall reduction in capacity or indication of recovery of depleted fisheries. Furthermore, with increases in regulation to make fisheries sustainable, there also appears to be an increase in illegal, unregulated and unreported fishing.[19]

36. The rapid growth of aquaculture, comprising mostly large-scale intensive operations, has increased environmental impacts and concerns. Increased demand for fishmeal and fish oil from wild fish, for feeding carnivorous farmed species such as salmon and shrimp, intensifies pressure on wild fisheries. Also, the large amounts of fish feed, aquacultural waste, antibiotics and other chemicals involved in aquaculture cause oxygen depletion, eutrophication and pollution. There is a need for research and development in respect of regulations to promote sustainable aquaculture while allowing fish production to increase so as to meet growing demand.

37. There has been some progress in recent years in protecting the marine environment from pollution. On 17 September 2008, the International Maritime Organization (IMO) International Convention on the Control of Harmful Anti-fouling Systems on Ships will enter into force, having been ratified by the required 25 States. To reduce the risk of oil spills, single-hulled oil tankers are being phased out following the entry into force in 2005 of new regulations that ban many such tankers and accelerate the phase-out of others. In addition, more stringent regulations are being applied to the dumping of waste by ships.

38. There is also growing concern over the acidification of ocean water due to higher atmospheric concentrations of CO_2. Increased acidity makes calcium carbonate more soluble, interfering with the growth and stability of coral, shellfish and other marine organisms with calcium carbonate structures. The impact of acidification is not well understood and requires more research.

C. Natural disaster risk reduction and mitigation

39. Natural disasters, particularly windstorms, floods and earthquakes, as well as exceptional events such as the 2004 Indian Ocean tsunami, remain a major cause of death, suffering and economic loss. A focus of recent disaster mitigation efforts has been the development of disaster early warning systems. Improvements in prediction techniques, observation and data-collection systems, and communications systems have reduced the impacts of disasters. Elements of the new Indian Ocean Tsunami Warning System, including 25 seismographic stations and 3 deep-ocean sensors providing information to 26 national tsunami information centres, became

[19] Food and Agriculture Organization of the United Nations, *The State of World Fisheries and Aquaculture 2006* (Rome, FAO, 2007).

operational in 2006. Further work is required on the national public information programmes for preparedness and warning.

40. Among recent efforts to mitigate the impact of natural disasters has been the development of innovative insurance schemes for developing countries. In pilot programmes in Africa, Asia and Latin America, which are now being scaled up, small farmers have been offered drought or other weather insurance, with payout based on rainfall and temperature patterns, eliminating the cost of loss assessment for individual farms as in conventional crop insurance. The programmes have been most effective and attractive to small farmers when associated with agricultural credit and technical support. Success factors include a close link between the weather index and actual crop losses, a reliable network of weather stations, and marketing of the insurance through trusted local institutions such as microfinance institutions or farmers' organizations.[20]

41. In 2006, the World Food Programme (WFP) launched a drought insurance programme in Ethiopia to protect poor people against extreme drought, with payments if rainfall is below a specified level for a specified period. Also in 2006, the United Nations had established the Central Emergency Response Fund (CERF) in order to speed up international responses to disasters and other emergencies through advance funding. In 2006 and 2007 (through September), the Fund received $647 million in funding from Governments, local authorities, non-governmental organizations and the private sector.

42. In 2007, the Caribbean Catastrophe Risk Insurance Facility (CCRIF) was launched as a multinational risk-pooling initiative, with contributions from Caribbean member States, donor countries and the World Bank. Member countries pay insurance premiums into the Facility based on their specific risk exposure and will receive immediate financial assistance in case of a hurricane or earthquake.

V. Sustainable consumption and production

A. The Marrakech Process

43. Since the second International Expert Meeting on Sustainable Consumption and Production under the Marrakesh Process, held in San José from 5 to 8 September 2005, progress has been made under the Marrakech Process on Sustainable Consumption and Production (SCP). Seven task forces are developing and implementing SCP projects and activities in the areas of sustainable products, sustainable public procurement, sustainable tourism, sustainable buildings and construction, sustainable lifestyles, education for sustainable consumption, and cooperation with Africa. National SCP programmes and action plans have been launched in a number of countries. Cooperation mechanisms are now in place to engage major groups and the donor community in the Marrakech Process, and a communication strategy is being developed to raise public awareness of SCP. An outline of a 10-year framework was tabled at the third International Expert Meeting on SCP held in Stockholm from 26 to 29 June 2007 and will be elaborated in

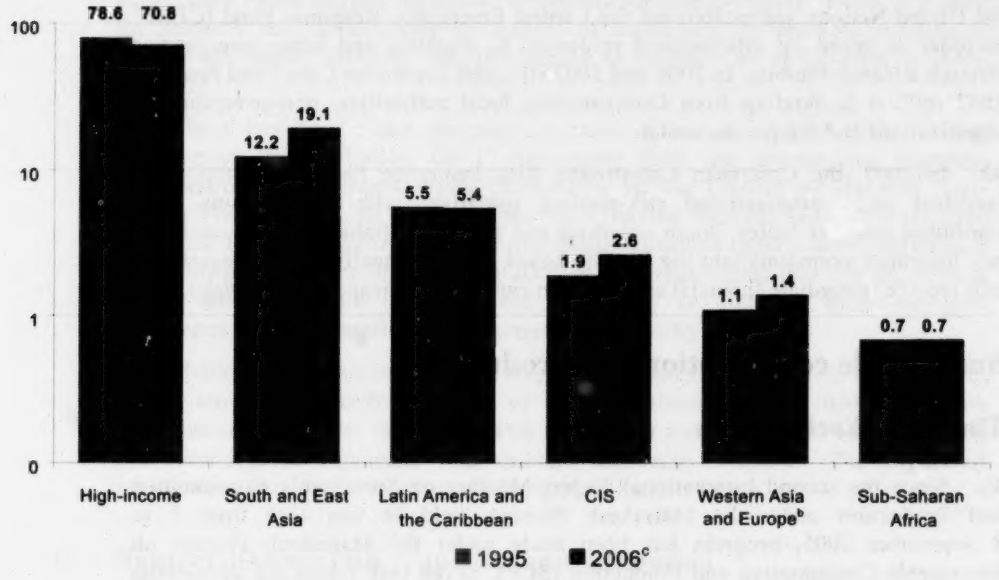
[20] United Nations, Department of Economic and Social Affairs, "Developing index-based insurance for agriculture in developing countries", Sustainable Development Innovation briefs, issue 2 (March 2007).

consultation with Governments and major groups in preparation for deliberations at the eighteenth and nineteenth sessions of the Commission on Sustainable Development in 2010-2011.

B. Industrial development

44. Between 1995 and 2006, developing economies increased their share of world industrial production from less than 20 to more than 26 per cent. South and East Asia accounted for 19 per cent of world industrial production in 2006 (figure VIII), up from 12 per cent in 1995, while the output share of sub-Saharan Africa, for most of which South Africa was responsible, remained less than 1 per cent.

Figure VIII
Share of world manufacturing value added, 1995 and 2006[a]
(Percentage)



Source: United Nations Industrial Development Organization, *The International Yearbook of Industrial Statistics, 2007* (Vienna and Cheltenham, United Kingdom; UNIDO and Edward Elgar; 2007).

[a] Exponential vertical scale.

[b] Including Bosnia and Herzegovina, Croatia, Montenegro, Serbia, the former Yugoslavia Republic of Macedonia and Turkey.

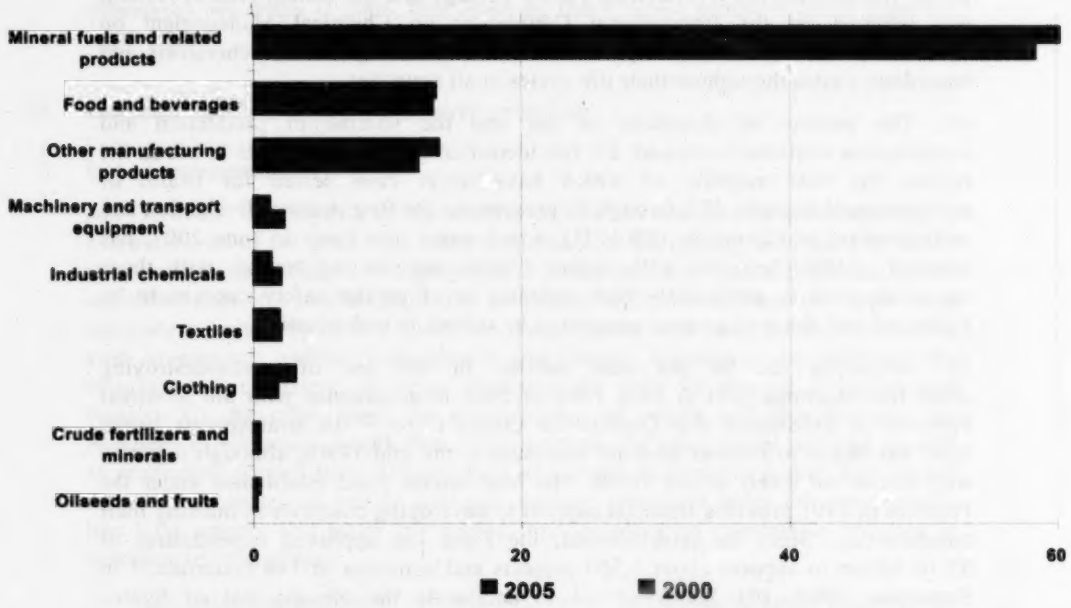
[c] Estimates.

45. China's share in world industrial output had almost quadrupled in the 1990s, rising to 7.9 per cent in 2005, placing China in third place after the United States and Japan. The Republic of Korea rose to sixth place.

46. In sub-Saharan Africa, manufacturing as a share of gross domestic product (GDP) decreased from over 12 per cent in 1999 to 10 per cent in 2004. The share of

manufacturing in exports has also declined slightly in recent years as high commodity prices have contributed to a natural resource export boom (figure IX).

Figure IX
Share of different commodities in total exports in sub-Saharan Africa, 2000 and 2005
(Percentage)



Source: UN Comtrade, Yearbook 2005, table D (http://comtrade.un.org/pb/SpecialTables.aspx?y=2005).

47. Corporate social responsibility has become a central element of corporate image in the global economy where companies source raw materials and components through global supply chains. A growing number of companies are adopting voluntary initiatives to ensure good working conditions and environmental performance throughout their supply chains, as well as good relations with workers, consumers, shareholders, communities, activists and other stakeholders. Corporate social responsibility programmes include codes of conduct, environmental management systems, stakeholder dialogues, community investment and philanthropy, and reporting, auditing and certification. The United Nations Global Compact is one example of a voluntary multi-stakeholder initiative to promote corporate responsibility in the fields of human rights, labour standards, environment and corruption. Launched in 2000, the initiative now has almost 3,000 corporate participants and 1,000 other participants from 116 countries.[21]

[21] United Nations Global Compact Office, "UN Global Compact Annual Review 2007" (New York, June 2007).

C. Chemicals

48. While industrial development is important for economic growth, poorly managed industrialization can cause severe air and water pollution and hazardous waste problems. Industry produces and consumes a large variety of chemicals, some of which are highly toxic. In 2006, as part of efforts to address these problems, the Strategic Approach to International Chemicals Management (SAICM), including the Dubai Declaration, the Overarching Policy Strategy and the Global Plan of Action, was adopted (at the International Conference on Chemical Management on 6 February 2006 in Dubai) to promote the sound management of chemicals and hazardous wastes throughout their life cycles in all countries.

49. The number of chemicals in use and the volume of production and consumption continue to expand. EU has identified 100,000 chemicals in use in the region, the vast majority of which have never been tested for health or environmental impacts. EU, through its programme for Registration, Evaluation and Authorization of Chemicals (REACH), which came into force in June 2007, has selected 30,000 chemicals with higher volume use for registration, with those chemicals used in particularly high volumes or of greater safety concern to be evaluated, and those of greatest concern to be subject to authorization.

50. Following the 96 per cent decline in the use of ozone-destroying chlorofluorocarbons (CFCs) from 1986 to 2005 in accordance with the Montreal Protocol on Substances that Deplete the Ozone Layer,[22] the stratospheric ozone layer has begun to recover from its minimum in the mid-1990s, although it is still well below the levels of the 1970s. The Multilateral Fund established under the Protocol in 1991 provides financial support to developing countries in meeting their commitments. Since its establishment, the Fund has approved expenditures of $2.16 billion to support about 5,500 projects and activities in 144 countries.[23] In September 2007, 191 States agreed to accelerate the phasing out of hydrochlorofluorocarbons (HCFCs).

51. Computers and other electronic equipment contain lead, mercury, chromium, cadmium, barium, beryllium and other toxic chemicals that can be released into the environment upon disposal. A large quantity of discarded computers and other electronic products from the United States, Japan and the Republic of Korea are exported to China and other developing countries in Asia for recycling, often under unsafe conditions. A Partnership for Action on Computing Equipment (PACE) is to be launched in June 2008 under the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal[24] for the exchange of information among Governments, industry, non-governmental organizations and others, with a view to developing solutions to problems and assisting developing countries in addressing the issue of health and environmental hazards arising from electronic waste.

52. To ensure recovery, recycling and proper disposal of electronic waste, EU adopted a directive on waste electrical and electronic equipment, which required producers, starting in 2005, to take responsibility for recovering and recycling

[22] United Nations, *Treaty Series*, vol. 1522, No. 26369.

[23] Multilateral Fund for the Implementation of the Montreal Protocol (http://www.multilateralfund.org/).

[24] United Nations, *Treaty Series*, vol. 1673, No. 28911.

electronic waste without charge to consumers. The directive was intended not only to promote recycling and reduce toxic pollution, but also to serve as an incentive to producers to design products that are free of toxic materials and easier to recycle.

53. EU had also adopted a directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment, banning, from 2006, the use of lead, mercury, cadmium, hexavalent chromium and two brominated flame retardants used in plastics. China adopted regulations banning the same six substances beginning in 2006, thus ensuring that Chinese products would meet EU requirements.

D. Human settlements and transportation

1. Urban management

54. In 2008, the majority of the world's population will live in towns and cities; and almost all of the growth in world population in the coming decades is expected to be in the cities of the developing world. This represents both a challenge and an opportunity. It is a challenge in that providing additional billions of people with adequate housing, water and sanitation, employment and other needs will require vast investment, skilled management and strong leadership. In addition, the concentration of people in cities increases the risks of disease, pollution and disaster. On the other hand, the concentration of people will also facilitate the provision of education, health care, transportation and other social services, as well as productive employment. Urbanization also tends to conserve energy and natural resources inasmuch as people living in densely populated cities use substantially less land, energy and water per person than people with comparable incomes in suburban or rural areas.

55. An increasing number of cities in both developed and developing countries are using a variety of traffic management measures to reduce traffic congestion, improve air quality, reduce fuel consumption and CO_2 emissions, facilitate walking and bicycling, and generally improve the quality of urban life. Many cities have reserved lanes for buses or high-occupancy vehicles, restricted the number of parking spaces, increased charges for parking, introduced congestion pricing, developed new car-free streets and residential areas, and improved conditions for walking and cycling.

56. A growing number of cities in both developing and developed countries are developing and expanding bus rapid transit systems based on dedicated bus lanes, large buses and rapid loading systems. Bus rapid transit systems have been introduced in Santa Fé de Bogotá, Jakarta, Beijing and Ahmedabad (India) and are planned in other cities. Such systems can provide efficient rapid transit on main routes for less than 1 per cent of what a subway system would cost.

2. Transportation fuels and technologies

57. Overall energy consumption for transportation, and the associated CO_2 emissions, are steadily increasing despite some improvement in the fuel-efficiency of vehicles. Private cars and air transportation continue to be the fastest growing modes of transportation, as well as the most energy-intensive. In almost all countries, people are travelling more than ever before, and increasingly by private

car. In the United States, private cars are used for 97 per cent of land passenger travel, with car travel having increased from 20,700 kilometres (km) per person in 1990 to 24,300 km per person in 2004. In Western Europe, private cars provide 84 per cent of land travel, with car travel having increased from 7,000 km per person in 1990 to 8,500 km per person in 2005.[25]

58. Motor vehicle fuel-efficiency standards are being introduced or strengthened in a number of countries. In the United States, the Corporate Average Fuel Economy (CAFE) standards have been strengthened for sports utility vehicles (SUVs) and other light trucks in recent years and new standards for larger vehicles were adopted in 2006. A new federal law will raise the CAFE standard for cars and trucks to 35 miles per gallon (mpg) by 2020. In 2005, China introduced mandatory fuel-efficiency standards stricter than those in the United States, with even stricter standards to take effect in 2008. Japan, in 2006, strengthened its mandatory fuel economy standards. In EU, draft mandatory CO_2 emission standards were issued in 2007 to replace the existing voluntary targets, efforts to reach those targets not being on track.

59. In Brazil, and to some extent in the United States, drivers have the option of fuelling their cars with ethanol, thereby reducing both CO_2 emissions and air pollution. In Brazil, as of 2007, 83 per cent of new cars are produced with "flex-fuel" engines capable of using gasoline, ethanol or any mixture of the two, with ethanol accounting for 40 per cent of fuel used by cars. Brazilian producers estimate that ethanol from sugar cane is cheaper than gasoline when the cost of oil is above $30 per barrel, and the cost of ethanol production is expected to decline further with improvements in production technology.

60. Global ethanol production increased from about 17 billion litres in 2000 to 38 billion litres in 2006. Ethanol production in countries with temperate climates is now based on corn or grain, and has higher production costs and less net fossil-fuel savings and CO_2 emission reductions than production from sugar cane in tropical countries. New technologies now under development allow ethanol production using cellulose from agricultural or forestry wastes or fast-growing grass or trees. This could offer new economic opportunities in rural areas and reduce pressure to clear forest land or switch agricultural land to ethanol production. The first cellulose-ethanol pilot production facility, using agricultural residues, is now operating in Canada.[26] Construction plans for commercial-scale cellulosic ethanol plants in Canada and the United States were announced in 2007.

61. For diesel engines, an alternative to petroleum-based fuel is biodiesel, usually produced from vegetable oil. Biodiesel production had grown from less than 1 billion litres in 2000 to 6 billion litres in 2006. In 2007, Indonesia and Malaysia announced that diesel fuel sold in those countries would contain 5 per cent biodiesel, and mentioned plans to increase the proportion later to 20 per cent. In March 2007, EU committed to raising the share of biofuels in transport fuels from

[25] European Conference of Ministers of Transport (ECMT), *Cutting Transport CO_2 Emissions: What Progress?* (Paris, OECD, January 2007); and *Trends in the Transport Sector: 1970-2005* (Paris, OECD, March 2007).

[26] International Food Policy Research Institute, "*Bioenergy and agriculture: promises and challenges*", Peter Hazell and R. K. Pachami, eds., Focus 14 brief (December 2006); see also International Energy Agency, *Biofuels for Transport: An International Perspective* (Paris, IEA, 2004).

about 2 to 10 per cent by 2020. However, concerns have been raised that cultivation of biodiesel crops could compete with other uses of agricultural land, reducing food production and increasing food prices, as well as possibly releasing CO_2 and nitrous oxide (N_2O) (another greenhouse gas) through deforestation and peat bog degradation. Biodiesel sustainability certification schemes are being developed to address such concerns. In India, Pakistan, the Philippines, Egypt, Zimbabwe and other developing countries, jatropha, a hardy oilseed shrub which can grow on dry degraded land, is being developed for biodiesel production.

3. Sustainable construction and building management

62. The total energy and the share of energy consumed in buildings, including heating, lighting and appliances, have continued to increase in most countries as the size of houses and the number and size of appliances continue to increase. The resulting increase in household energy consumption has been only partially offset by substantial improvements in energy efficiency. Efficiencies of heating systems, air conditioners and refrigerators have increased by more than 50 per cent since the 1970s. In the United States, new, more stringent energy efficiency standards were introduced for many appliances in 2005.

63. With the rise in energy prices since 2003, there has been increased interest in energy efficiency in buildings, along with other green construction measures. In the United States, the National Association of Home Builders, noting "the exploding market for sustainable, environmentally friendly and recycled building products", had adopted voluntary Model Green Home Building Guidelines in 2005. The Green Building Council, in 2005, extended its Leadership in Energy and Environmental Design (LEED) rating system from commercial buildings to homes on a pilot basis. By late 2007, most large United States home builders were introducing green practices into the development, design and construction of new homes as the costs of environmental elements declined, the financial benefits increased, banks offered lower mortgage rates on environment-friendly houses, and consumer demand grew.

E. Waste management and recycling

64. In developed countries, municipal waste generation has continued to grow steadily to an average of about 540 kilograms (kg) per person per year, ranging from 354 kg per person in Norway to about 800 kg per person in the United States. Most of the solid waste in developed countries goes to landfills, but incineration with energy recovery is increasing and is now the dominant means of disposal in a number of EU countries and Japan.

65. Increasingly, methane gas generated in landfills by decomposition of organic material is being collected and used for energy, thus reducing emissions of this strong greenhouse gas. Such collection is now mandatory in EU. Landfill methane projects are also being undertaken in developing countries with funding through the Clean Development Mechanism under the Kyoto Protocol.

66. Recycling of waste reduces the amount going to landfill or incineration, generates revenue to cover some of the cost of waste collection, conserves natural resources and energy, and helps reduce greenhouse gas emissions. In developed countries, rates of recycling, including both household and industrial recycling, have increased rapidly and now average over 80 per cent for metals, 40-55 per cent for

paper and cardboard, and 35-40 per cent for glass. Recycling has received a large boost in the last few years from price increases for raw materials and energy. Metal recycling, in particular, has become more profitable with the sharp rise in metal prices since 2004 and with the current high cost of energy, as recycling scrap metal requires much less energy than refining metal from ore, as well as avoids the pollution and resource depletion associated with mining and smelting. In the United States, recycling of steel reached a record 76 per cent in 2006, with 90 per cent recycling for appliances and 65 per cent for steel cans and packaging. In the United Kingdom of Great Britain and Northern Ireland, increases in recycling between 2000 and 2006 more than offset increases in waste generation, reducing the volume of municipal waste for disposal by 15 per cent.[27]

67. To promote recycling of old vehicles, EU adopted a directive on end-of-life vehicles. By 2007, 85 per cent by weight of every new vehicle would have to be made of recyclable components, up from the figure of 75 per cent of metal that had been previously recycled.

68. The growth of recycling has been accompanied by an increase in international trade in recycled material, particularly from developed countries to China and other rapidly industrializing Asian countries. This trade has been estimated at 135 million tons annually, including 78 million tons of iron and steel scrap, 35 million tons of paper and cardboard, 15 million tons of aluminium and other non-ferrous metals, and 4 million tons of plastics.

F. Tourism

69. International travel and tourism, including both personal and business travel, has been growing rapidly in recent decades. Growth slowed briefly after 2001, but the number of tourists has since resumed growing at a rate of about 5 per cent per year. International tourism receipts account for over 5 per cent of world export income. While Europe and North America continue to be the main tourist destinations, the share of developing countries has been increasing, from 8 per cent of tourist arrivals in the mid-1970s, and 25 per cent in 1990, to 35 per cent in 2006.[28]

70. In recent years, there has been rapidly growing interest in ecotourism, and also growing concern over the environmental impact of large-scale tourism, particularly in popular but environmentally sensitive destinations. International tourists in resort areas tend to use large amounts of energy and water and generate a large quantity of waste, while many resort areas in developing countries do not have the infrastructure for sound environmental management.

71. In some countries, tourist destinations in ecosystems at risk from excessive tourism are using tourist fees to help protect ecosystems as well as to undertake community development. The Santa Elena Cloud Forest Reserve in Costa Rica, Galapagos National Park in Ecuador, and Bonaire National Marine Park in the Netherlands Antilles charge user fees to pay for protection and management of ecosystems, maintenance of environmentally sound tourist facilities, and support for

[27] United Kingdom Department for Environment, Food and Rural Affairs, "Municipal waste management statistics".

[28] World Tourism Organization website, Facts and figures (www.world-tourism.org).

local communities. Involvement of local communities, including local authorities, non-governmental organizations, local tour operators and educational institutions, with employment and training of local staff, help ensure local support for sound environmental management as well as community development and employment.

72. Mainstream international hotel chains are increasingly making efforts to reduce their environmental impacts. In response to increasing pressure from the public, clients and non-governmental organizations, many travel and tourism companies, including over 10,000 hotels, have joined together in the International Tourism Partnership to promote responsible tourism. In 2007, the Partnership launched the Going Green standards for sustainable hotels, including environmental management, procurement, community relations, and local environmental protection.[29]

73. A variety of eco-labels and certification schemes have been developed for tourist sites and hotels. The Blue Flag label, for example, with 42 participating national organizations in Europe, Latin America, the Caribbean, Africa and Oceania, has been awarded to 3,200 beaches and marinas in 37 countries. However, there are more than 100 competing tourism certification schemes worldwide, with no internationally agreed standards. Some schemes simply allow companies to buy a label without being held accountable for performance.

VI. Means of implementation

74. Countries continue to make progress in the formulation and elaboration of national strategies for sustainable development, as called for in the Johannesburg Plan of Implementation. Eighty-two countries have reported to the Commission on Sustainable Development or the Department of Economic and Social Affairs that they are currently implementing a national strategy for sustainable development, which constitutes an increase of 19 per cent compared to 2006. A few countries have also organized international shared learning and review activities, thereby contributing to and benefiting from an in-depth exchange of experiences, lessons learned and good practices in the development and implementation of national strategies for sustainable development. Whereas coverage of issues, format and process of national strategies vary across countries in line with national conditions and priorities, climate change is an issue that is generally covered in the context of sustainable development. An analysis of 46 national strategies conducted by the Department of Economic and Social Affairs in 2007 revealed that most developed as well as developing countries address climate change mitigation and, less often, adaptation in their national strategies for sustainable development.

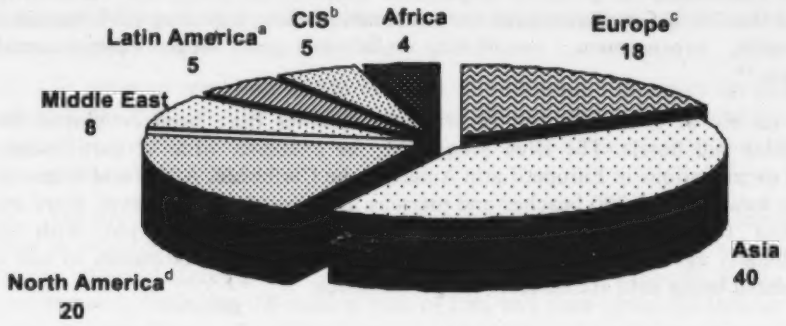
A. Trade

75. The world economy and international trade grew vigorously in 2006 (see figure X for breakdowns by region). World merchandise exports increased by 15 per cent, while commercial services exports were up about 11 per cent. Overall, the share of developing countries in global trade rose from 29 per cent in 1996 to 37 per

[29] International Tourism Partnership (www.tourismpartnership.org).

cent in 2006.[30] The share for the least developed countries of world merchandise exports (0.9 per cent) was the highest since 1980.

Figure X
Share of world merchandise trade (exports), by region, 2006
(Percentage)



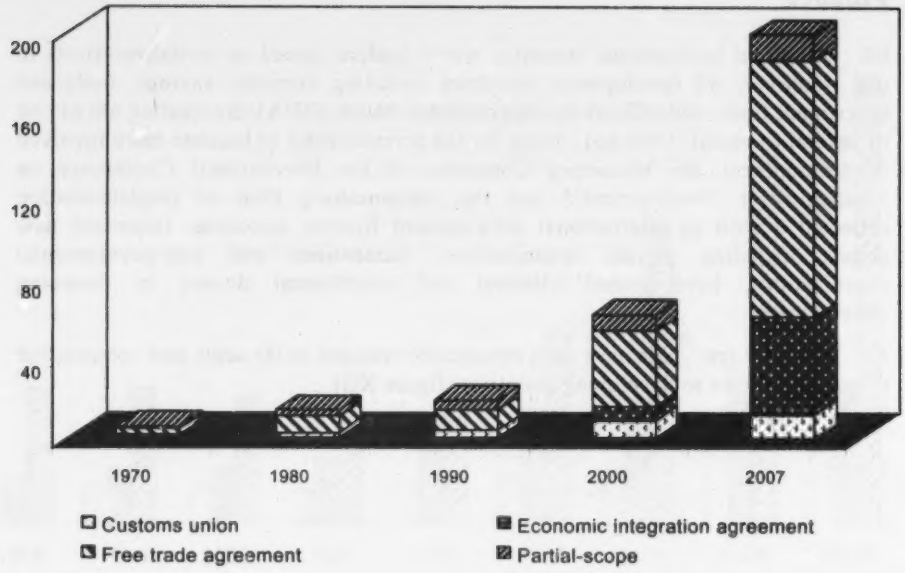
Source: World Trade Organization, *World Trade Report 2007* (Geneva, World Trade Organization, 2007), appendix table 1.
[a] Including the Caribbean.
[b] Commonwealth of Independent States.
[c] Excluding intra-EU (25) exports.
[d] Including Mexico.

76. The Doha Development Round of international trade negotiations resumed in September 2007, but no significant progress has been made and the near-term prospect for agreement seems limited.

77. Meanwhile, the proliferation of bilateral and regional trade agreements has put the integrity of the multilateral trading system at risk.[31] As of July 2007, 205 regional trade agreements were in force, compared with 65 in 2000 (figure XI). Regional trade agreements differ considerably in scope, varying from exchange of preferences on a limited range of products between two or more countries to provisions extending beyond traditional tariff reduction or elimination. Among developing countries, regional trade agreements are for the most part limited-scope agreements, while regional trade agreements among developed countries tend to be more far-reaching, including decreasing tariff levels for most non-agricultural goods.

[30] United Nations Conference on Trade and Development *Trade and Development Report 2007: Regional Cooperation for Development* (United Nations publication, Sales No. E.07.II.D.11).
[31] *World Economic Situation and Prospects 2007* (United Nations publication, Sales No. E.07.II.C.2).

Figure XI
Regional trade agreements notified to the General Agreement on Tariffs and Trade/World Trade Organization, 1970-2007 and in force



Source: World Trade Organization statistics.

78. South-South merchandise trade has expanded considerably in the past few years, although from a very small base: in 2002, it made up about 6 per cent of world trade, up from 2.3 per cent in 1990. South-South merchandise trade has grown on average 12.5 per cent per year, compared with 7 per cent for North-North trade and 9.8 per cent for North-South trade.[32] Tariff barriers affecting South-South trade are still much higher than those affecting other trade, averaging about 11 per cent, compared with 4 per cent for North-North trade and 5 per cent for North-South trade. This suggests considerable scope for trade policy with respect to boosting trade among developing countries.

79. In addition to tariff barriers, non-tariff measures are increasingly applied, especially as technical measures in North-South trade, and there is concern that countries may abuse non-tariff measures as protectionist measures. From 1994 to 2004, the proportion of tariff lines affected by non-tariff measures almost doubled, from 32 to 59 per cent. Anti-dumping measures have also emerged as a major impediment to international trade during the last 25 years. The number of anti-dumping actions had doubled between the late 1980s and late 1990s, reached a peak of 364 in 2001, then decreased to 191 in 2005. Before the 1990s, anti-dumping measures had been used mainly by the developed countries, but more recently

[32] Organization for Economic Cooperation and Development, "*South-South trade: vital for development*", policy brief, August 2006.

developing countries have also initiated investigations, their share having increased to about 60 per cent from virtually nil in the 1980s.[33]

B. Finance

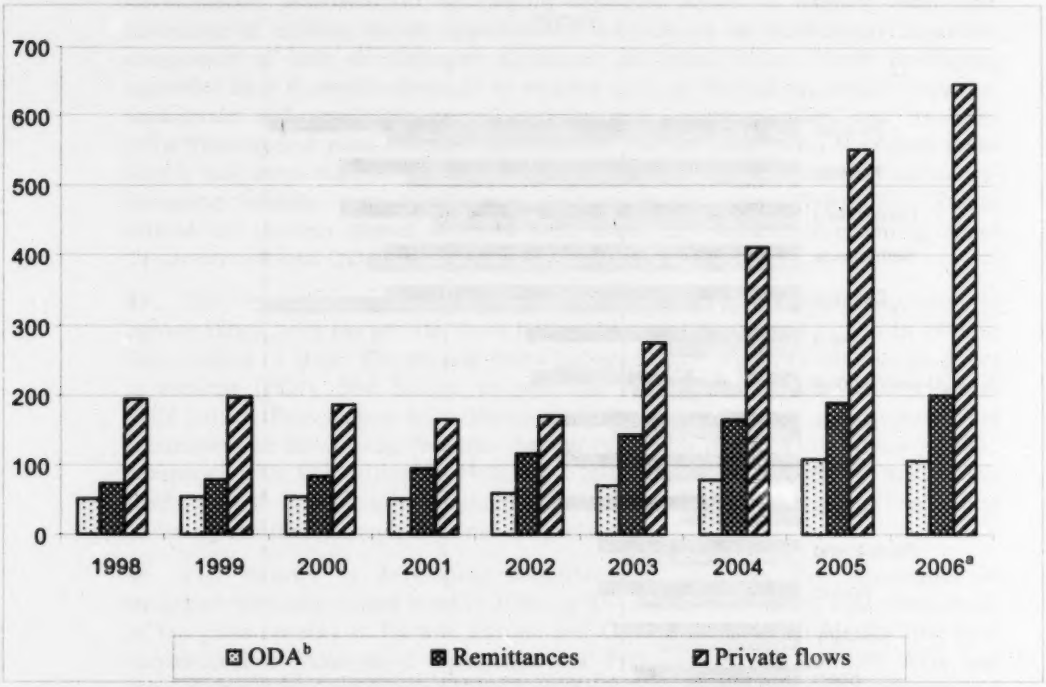
80. At recent international summits, world leaders agreed to revitalize efforts to use effectively all development resources including domestic savings, trade and investment flows and official development assistance (ODA). By treating aid as one of several financial flows and calling for the private sector to become more involved in development, the Monterrey Consensus of the International Conference on Financing for Development[34] and the Johannesburg Plan of Implementation reflected a shift in international development finance discourse. Important new actors, including private organizations, foundations and non-governmental organizations, have joined bilateral and multilateral donors in financing development.

81. The past few years have seen remarkable changes in the scale and composition of capital inflows to developing countries (figure XII).

[33] United Nations Conference on Trade and Development, *Trade and Development Report 2006: Global Partnerships and National Policies for Development* (United Nations publication, Sales No. E.06.II.D.6).

[34] *Report of the International Conference on Financing for Development, Monterrey, Mexico, 18-22 March 2002* (United Nations publication, Sales No. E.02.II.A.7), chap. I, resolution 1, annex.

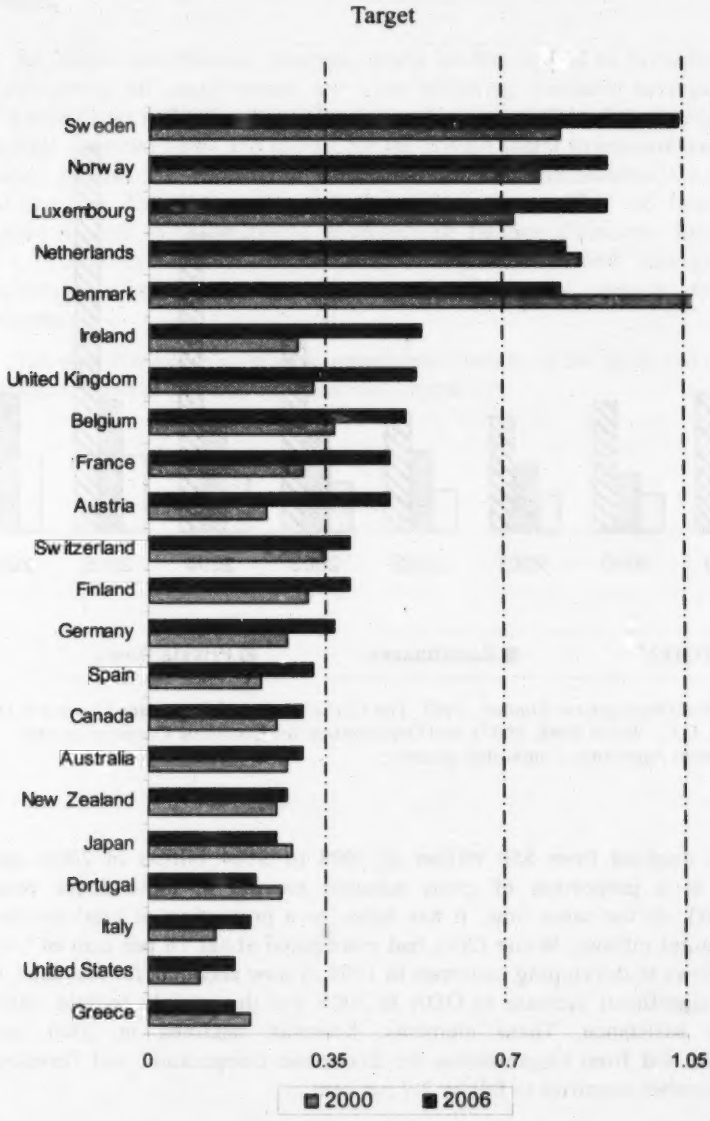
Figure XII
Net capital flows to developing countries, 1998-2006
(Billions of dollars)



Sources: World Bank, *Global Development Finance, 2007: The Globalization of Corporate Finance in Developing Countries* (Washington, D.C., World Bank, 2007); and Organization for Economic Cooperation and Development/Development Assistance Committee database.
[a] Estimates.
[b] Total ODA flows.

82. ODA doubled from $50 billion in 1998 to $104 billion in 2006 and has increased as a proportion of gross national income in most donor countries (figure XIII). At the same time, it has fallen as a proportion of total developing-country capital inflows. While ODA had constituted about 16 per cent of total net capital inflows to developing countries in 1998, it now accounts for less than 11 per cent. The significant increase in ODA in 2005 was due mainly to debt relief and emergency assistance. These elements, however, declined in 2006, causing development aid from Organization for Economic Cooperation and Development (OECD) member countries to fall by 2.7 per cent.

Figure XIII
Official development assistance as a percentage of gross national income in Development Assistance Committee countries, 2000 and 2006



Source: OECD statistics.

83. ODA for sub-Saharan Africa has increased substantially in recent years, with net ODA having risen from $11.2 billion in 1998 to $24.7 billion in 2005. However, much of the increase has come in the form of debt relief. To meet the pledge to

increase ODA to sub-Saharan Africa to $50 billion by 2010, donors would have to increase the flow of aid to the region by 15 per cent annually until then.[35]

84. Given the potential for export production to reduce poverty and promote development, assistance to developing countries aimed at helping them take advantage of existing export opportunities is becoming an increasingly important component of both development assistance and trade policy. Many developing countries face domestic obstacles to exports such as limited production capacity, inadequate and unreliable energy supply, poor communication and transport infrastructure, and weak financial institutions. "Aid for trade" aims to address these supply-side constraints by providing trade-related financial and technical assistance, including infrastructure development and productive capacity-building. Trade-related ODA commitments in 2004 were about $23 billion, representing about 24 per cent of total ODA.[36]

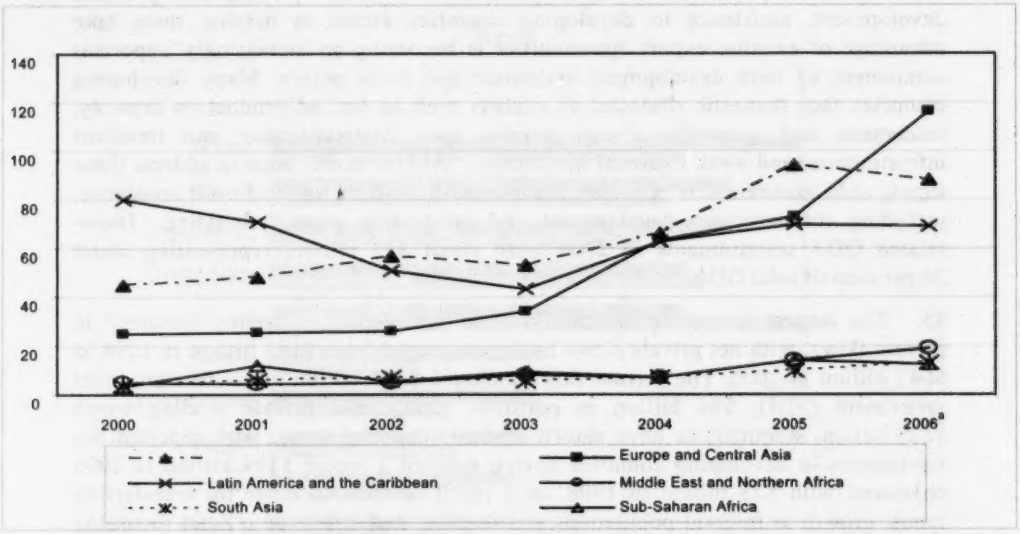
85. The largest change in capital flows to developing economies occurred in private flows, with net private flows having increased from $193 billion in 1998 to $647 billion in 2006. The private flows included $325 billion in net foreign direct investment (FDI), $94 billion in portfolio equity, and private lending worth $228 billion. Remittances have shown a similar upward trend, with reported net remittances to developing countries having reached a record $199 billion in 2006 compared with $73 billion in 1998, as a result of reduced costs for transferring funds, growth in migrant populations and income, and improved official recording of money remitted through informal channels.

86. FDI inflows to developing countries and countries with economies in transition reached a record level in 2006, up $44 billion from 2005, with virtually all of the gains coming in Eastern Europe and Central Asia, which for the first time surpassed East Asia as a destination for FDI (figure XIV). South Asia and sub-Saharan Africa are lagging behind, as those regions received only 4 per cent and 3.8 per cent, respectively, of total 2006 developing-country net FDI flows.

[35] World Bank, *Global Development Finance, 2007: The Globalization of Corporate Finance in Developing Countries* (Washington D.C., World Bank, 29 May 2007).

[36] Organization for Economic Cooperation and Development, *The Development Dimension: Aid for Trade: Making it Effective* (Paris, OECD, 2006).

Figure XIV
Net FDI flows to developing and transition countries, 2000-2006
(Billions of dollars)



Source: World Bank, *Global Development Finance, 2007: The Globalization of Corporate Finance in Developing Countries* (Washington D.C., World Bank, 2007).
[a] Estimates.

87. FDI continues to be concentrated in a few of the largest middle-income countries, although the degree of concentration has declined somewhat over the past few years. FDI to China declined slightly in 2006, but still amounted to almost one quarter of FDI inflows to developing countries, down from almost one third in 2002.

88. Recently, developing countries have become increasingly important as a source of FDI. The developing-country share of outward FDI flows rose from 5.5 per cent of the world total in 1990 to 14.7 per cent in 2006, reflecting an expansion of FDI by transnational corporations from a number of emerging economies (box VI).

Box VI
Increased FDI flows from China and India to Africa

Europe and North America have been the main foreign investors in sub-Saharan Africa, accounting for 68 per cent and 22 per cent, respectively, of the FDI stock. However, FDI from developing countries, including South Africa, China, India, Malaysia and Brazil, has increased in recent years.

FDI from Asia now accounts for 8 per cent of total FDI inflows to Africa, with China by far the largest Asian investor. China has been investing primarily in oil and mineral production facilities as well as light manufacturing, while India's investments are mainly in the financial and service sectors, food processing and light manufacturing.

89. Recent years have seen a significant expansion of funds specifically allocated to health and environment in developing countries. The Global Fund to Fight AIDS, Tuberculosis and Malaria had approved $5.3 billion for 410 grants in 132 countries as of end-2006. A results assessment suggests that 1.25 million lives have been saved.[37] Since 1991, the Global Environment Facility (GEF), has allocated $6.8 billion, supplemented by more than $24 billion in co-financing, for more than 1,900 projects addressing global environmental issues in more than 160 developing countries and countries with economies in transition. With climate change, developing-country financing needs for mitigation and adaptation are expected to rise steeply.

90. Private institutions and non-governmental organizations are a growing source of development assistance. Private sector aid contributions totalled $11 billion in 2006, equal to 13 per cent of the ODA provided by Development Assistance Committee (DAC) donors (excluding debt relief), up from 9 per cent in the 1990s. Private philanthropic foundations have attracted much attention over the past few years, particularly following Warren Buffett's $30 billion pledge to the Bill and Melinda Gates Foundation, the largest charitable foundation in the world, with an endowment valued at $33 billion. In 2006, roughly 60 per cent of the $1.56 billion in disbursements had gone to global health and 10 per cent to global development, including agriculture, education and financial services for the poor. The Foundation projected disbursement of about $2.8 billion in 2007, equal to almost 3 per cent of projected ODA disbursements by Development Assistance Committee donors.

91. Given the increased availability of diverse resources for development finance, making aid effective and ensuring that international assistance supports domestic priorities constitute a major challenge. The 2005 Paris Declaration on Aid Effectiveness, endorsed by more than 100 countries and donor organizations, called for reform of the aid delivery system. Most donor countries have made major efforts to implement the Paris Declaration. At the same time, developing countries are voicing concerns about the slow pace of change in reforming donor practices that limit aid effectiveness, as reflected, for example, by the disconnect between donor headquarters policies and in-country practices, programmes that are overly donor-driven, and lack of progress on untying aid. The first survey designed to monitor progress on implementing the Paris Declaration, conducted in 2006, showed that meeting the 2010 targets would require significant further efforts.

[37] Global Fund to Fight AIDS, Tuberculosis and Malaria, *Partners in Impact: Results Report* (Geneva, Global Fund to Fight AIDS, Tuberculosis and Malaria, 2007).

VII. Continuing challenges

92. While poverty rates have been substantially reduced in East and South-East Asia, in sub-Saharan Africa progress has been slow and poverty rates remain high in the face of slow agricultural productivity growth, civil conflict, HIV/AIDS, malaria and other diseases. There has been some increase in development assistance, including debt relief and funds for combating malaria and HIV/AIDS, but substantially greater efforts are needed to meet the Millennium Development Goals. Innovative anti-poverty programmes that provide assistance to poor and vulnerable families conditional on school attendance and health care appear promising, while their broader replication, especially in poorer countries, poses a challenge.

93. Energy for sustainable development also remains a major challenge. Urgent efforts are needed to expand access to reliable, affordable, economically viable, socially acceptable and environmentally sound energy services, while reducing global greenhouse gas emissions. A growing number of countries are increasing energy efficiency, promoting renewable energy sources, developing new, cleaner energy technologies, and promoting sustainable transportation systems. Considerable scope remains for further efficiency improvements and innovations in energy and transport.

94. High prices for raw materials and energy are increasing the importance of eco-efficiency, waste reduction and recycling. One key challenge is to devise regulations and incentives that encourage industry to design products so as to minimize environmental impacts and waste over the whole life cycle, including disposal. Another growing challenge is to ensure safe disposal and recycling of electronic waste and other hazardous waste in developing countries.

95. Deforestation, forest degradation and loss of biodiversity, particularly in tropical forests, remain a key challenge. As deforestation is an important contributor to climate change, financing is beginning to become available to slow rates of deforestation and associated greenhouse gas emissions. Still, challenges remain in providing incentives for conserving tropical forests. International cooperative efforts are also critical to ensuring sustainable fisheries, including restoring depleted stocks, protecting stocks and ecosystems at risk, and developing sustainable methods of aquaculture.

96. Improving access of developing countries, particularly countries in sub-Saharan African and other least developed countries, to international markets and development finance is essential for sustainable development and poverty reduction. A key challenge for both donor and recipient countries is to ensure that development assistance, including bilateral and multilateral ODA, commercial investment, and foundation funding, is used effectively where it is most needed, in accordance with the development priorities of recipient countries.